

The New England College of Optometry

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Bulletin of

The New England College of Optometry



Light flooding into the College library is filtered through the heavy wooden ribs and stained and translucent glass panels of this nineteenth-century Italian Renaissance skylight.

1979-1981



EQUAL OPPORTUNITY POLICY

The New England College of Optometry prohibits discrimination on the basis of race, sex, religion, color, creed, marital or parental status, or national origin in the recruitment and admission of students, the recruitment and employment of faculty and staff, and the operation of its programs and activities, as specified by federal and state laws and regulations.



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1 Introductory Information

The Profession

Optometry began as a legally recognized health profession in the United States at the turn of the century. During the 1920's, a national optometric accrediting body was formed to evaluate educational programs and guide the quality of optometric education. Thirty-five schools offered degrees of optometry at that time; only six earned full accreditation. This movement in optometric education closely followed similar evaluations and changes in medical and dental education.

Between 1958 and 1965, a number of Federal laws were enacted which provided funds to increase manpower in the health fields and to further improve the quality of education. Optometry schools responded by making major improvements in facilities and by expanding clinical training. During this time, all schools developed four-year curricula.

Today, most entering students have earned baccalaureate degrees. Currently, 14 schools and colleges of optometry enroll approximately 1,200 students annually from a pool of qualified applicants numbering more than 4,500.

The Doctor of Optometry degree is a prerequisite for licensure eligibility in every state. Individual states, of course, may impose their own additional requirements for licensure — such as State Board Examinations, National Board Examinations, and practical examinations in clinical optometry.

Most of the 22,000 optometrists now active serve as primary health care practitioners, diagnosing and treating visual problems, and providing health counseling. More and more of them, though, practice in clinical settings or are involved in government service, industrial consulting, school consulting, teaching, and research.

The College

History

The New England College of Optometry was established in 1894 as the Klein School of Optics, one of two current optometry schools initiated during the nineteenth century. The Klein School of Optics gave way to the Massachusetts School of Optometry, which was incorporated in 1901.

By 1946, the school, like the profession, had come of age. A number of achievements followed in quick succession:

- 1946: The school acquired a non-profit charter.
- 1947: The school was accredited by the Council on Education and Professional Guidance.
- 1950: The name of the institution was changed to the Massachusetts College of Optometry, reflecting its new status as an institution of higher learning.
- 1950: The College received the right to confer the degree of Bachelor of Science in Optometry.
- 1951: Right was granted to the College to confer the Doctor of Optometry (O.D.) and the honorary Doctor of Ocular Science degrees.
- 1952: The College was accorded the right to grant still another honorary degree — the Doctor of Humane Letters.

The College's eighty-fifth year, 1979, represents another important bench mark. One of the goals set 10 years ago was to expand the College's physical plant, enabling it to enroll more students in response to manpower needs in the profession and to respond to a dramatic increase in numbers of students seeking to become optometrists. Since that time, the College has moved into quarters with four times more classroom and laboratory space. In addition, the number of affiliations with external clinics has grown from one in 1969 to more than 30, located in Massachusetts, five other states, and Israel. This



expansion has made possible a significant increase in the number and variety of patient encounters which students experience during clinical training.

The graduating classes in 1969 and 1979 numbered 40 and 78 respectively. Between those years, the number of qualified applicants increased dramatically, and the average G.P.A. of entering students rose from 2.5 to 3.2.

New programs have been added, including a two calendar-year O.D. degree program, for persons who have previously earned Ph.D. degrees in the sciences, and a program in rehabilitative optometry.

The change of name in 1976 from the Massachusetts College of Optometry to The New England College of Optometry more appropriately reflects the institution's constituency. About two-thirds of all students at the College are from the six New England states. The remaining third represents 22 other states and four foreign countries.

Approximately 70 percent of all optometrists practicing in New England graduated from this institution. The College's ties to the region and its commitment to fulfilling its role in providing primary health care to the people of New England are central to its mission.



Location

The central facilities of The New England College of Optometry are located on historic Beacon Street in Boston, bordering the Charles River. Boston's Public Garden, the Museum of Fine Arts, Symphony Hall, the Boston Public Library, Fenway Park, and the Prudential Center are all within one mile of the campus.

For sports enthusiasts, biking, sailing, and tennis facilities are available along the Charles River. In summer, Boston "Pops" concerts are performed outside on the Esplanade along the Charles.

All year 'round, Boston's international restaurants, historic sites, and professional theater offer many opportunities for enjoyment. New England beaches are only a short drive from the city, and the finest skiing in the Northeast is about a three-hour drive north of Boston. In addition, the well-known recreational areas of Cape Cod, Vermont, New Hampshire, and Maine are all within accessible driving distance of Boston — the "Hub" of New England.

Accreditation

The College is accredited by the Council on Education of the American Optometric Association, the official accrediting body for schools and colleges of optometry, and by the New England Association of Schools and Colleges. It is approved by the Veterans Administration for study under Public Law 358.



2 Academic Programs

The Four-Year O.D. Program

The primary purpose of the educational program is to prepare optometrists whose competence can be applied effectively to the solution of human problems and the achievement of human potential. The curriculum is, therefore, designed to teach students the skills, knowledge, and attitudes which will prepare them to practice optometry in a way that responds to patient needs and evolving societal needs, innovations in law and public policy, and technological development.

Though an increasing number of optometrists can be expected to specialize, most optometrists will continue to be engaged in primary care. They see patients who have determined that they need visual care or periodic evaluation of their visual status. In addition, they serve patients referred by other health professionals.

The principal functions of the optometrist in general practice are the diagnosis and treatment of conditions of the visual system. To perform these functions, optometrists must thoroughly understand the stimuli which initiate vision, the anatomy and physiology of the structures which mediate vision, and the way in which visual information is processed and factors which affect that processing. This body of knowledge is called vision science. Vision science is not a distinct basic science but an organization of all knowledge that provides information about structures related to vision and how the visual process works. Mastery of vision science provides a base which underlies the optometrist's ability to diagnose and treat problems of the visual system.

Most optometrists will continue to be first-contact or primary care health professionals, typically serving patients who have come on their own initiative rather than through referral by another health professional. As primary health care professionals, they will need to understand those certain aspects of health sciences necessary to competently deal with ocular conditions which are common, self-limiting, simply diagnosed, and treated in an ambulatory care setting. They also need to be able to identify patients who have treatable



ocular disease and to see that such patients receive appropriate treatment. Further, they need to develop the ability to recognize early signs of health problems other than visual problems because many systemic diseases are detectable by visual and ocular clues or are manifested by other observations or tests accessible to optometrists. The patient may not yet recognize the symptoms of the disease, or may have chosen to ignore them. Optometrists serve their patients best when they thoroughly understand the epidemiology of health problems. The role of the primary optometrist in such instances is to counsel and refer patients to other health practitioners.

Primary optometrists also must know when to refer patients to other optometrists with special training and experience in a particular optometric specialty. The primary optometrist would, for instance, refer to an optometric specialist small infants (whose visual assessment requires special skills the primary optometrist has not normally acquired); children with vision problems associated with other developmental disabilities; patients with strabismus; patients with low vision whose rehabilitation requires special appliances and procedures; and patients with visual problems associated with unusual environments.

The optometrist should, then, have appropriate attitudes, knowledge, skill, and competence to

provide primary vision care; to detect early signs of ocular, neurological, behavioral, and systemic health problems and to refer patients exhibiting such signs to appropriate health professionals; to counsel patients concerning good health habits and the prevention of visual problems; and to manage curative or preventive regimens in consultation with other health practitioners.

The major goal of the educational program at The New England College of Optometry is to produce such a health care practitioner.

The program designed to achieve this complex goal provides (a) a fundamental knowledge of the vision and basic health sciences in such a way that they can be applied readily in the practice of optometry and (b) a fundamental knowledge of and extensive experience in primary optometric patient care.

Educational Objectives

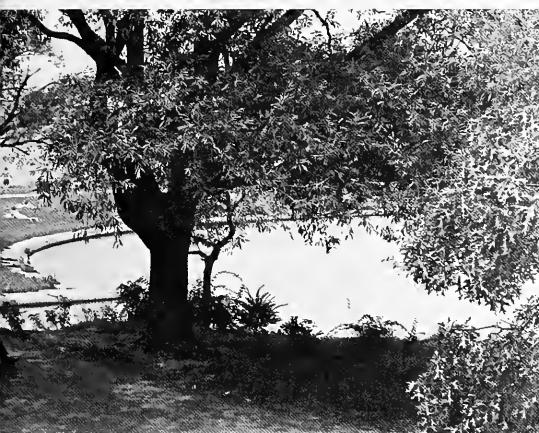
The educational objectives of The New England College of Optometry are:

- (1) to provide a general educational environment which insures intellectual growth and scholarly development; to provide education in the basic health sciences in order to foster understanding of biologic phenomena, principles, and mechanisms that bear upon appreciation of both the non-pathologic and the diseased human state; and to provide education in the vision sciences so that the student can come to understand and appreciate rational methodology as applied to the diagnosis and treatment of human visual conditions;
- (2) to provide the student with clinical optometric measurement skills and a comprehensive understanding of the various non-pathological anomalies of vision and the means by which these visual anomalies can be corrected;
- (3) to make the student thoroughly familiar with ophthalmic lenses, devices, and appliances, and their respective clinical applications;
- (4) to equip the student, through experience acquired in a controlled clinical environment,



with skills used in patient interviewing and counseling as well as with other patient management skills;

- (5) to provide opportunities for patient care experiences under the guidance of experienced preceptors so that the student acquires skills needed in order to make sound clinical judgments;
- (6) to inculcate in the optometry student the attitudes and skills of the primary health care professional as these relate not only to the early detection of visual system disease, but also to the recognition of early signs of high-incidence disease that may or may not affect the visual system;



Program of Study

First Year

- (7) to enable the student to acquire an appropriate professional demeanor;
- (8) to familiarize the student both with general and ocular emergency procedures;
- (9) to teach the student to interact effectively, both with optometrists and with other health care professionals, in the interest of the patient's well-being;
- (10) to provide the student with knowledge, skills, and attitudes that will enable him or her to serve as a community resource both in matters of applied visual science and in matters of more general concern, such as disease prevention and sound health practice;
- (11) to equip the student with appropriate technology and protocol so that he or she may design and execute effective programs of vision screening among various kinds of patient populations;
- (12) to enable the student to detect and to refer appropriately patient problems that require the skills of an optometrist trained in a specialty area such as pediatric, rehabilitative, or environmental optometry; and
- (13) to familiarize the student with the various legitimate modes of optometric practice and to provide him or her with insight into the administration and operation of the typical multidisciplinary health center.

FALL QUARTER

Geometric and Visual Optics
Psychophysics
Ocular and Human Anatomy
Biochemistry and Molecular Biology
Optometric Methods Lab. I
Health Care in the United States

WINTER QUARTER

Geometric and Visual Optics
Visual Perception
Neuroanatomy
Systems Physiology
Immunology
Optometric Methods Lab. II
Basic Optometric Theory and Methods I

SPRING QUARTER

Ophthalmic Optics
Ocular Physiology
Visual Neurophysiology
Endocrinology and Nutrition
Basic Optometric Theory and Methods II
Optometric Methods Lab. III
Epidemiology
Microbiology

Second Year

FALL QUARTER

Radiometry/Photometry/Colorimetry
Refractive and Accommodative Anomalies
Mechanical Optics
Introduction to Clinical Practice I
Pathophysiology
Optometric Methods Lab. IV
Ocular Myology

WINTER QUARTER

Physical and Modern Optics
Ocular Myology
Contact Lens Theory and Methods
Anomalies of Binocular Vision

Developmental and Abnormal Psychology
Introduction to Clinical Practice II
Optometric Methods Lab. V
Monocular Sensory Aspects of Vision

SPRING QUARTER

Visual Space Perception
Sensory and Motor Anomalies
Patient Interviewing
Contact Lens Theory and Methods
Developmental and Abnormal Psychology
Monocular Sensory Aspects of Vision
Basic Clinical Practice (Summer)

Third Year

FALL QUARTER

Clinical Medicine for Optometrists
Ocular Disease
Basic Clinical Practice
Pediatric Optometry
Rehabilitative Optometry
Development of Visual Perception

WINTER QUARTER

Clinical Medicine for Optometrists
Ocular Disease
Basic Clinical Practice
Pediatric Optometry
Rehabilitative Optometry
Pharmacology

SPRING QUARTER

Applied Ocular Pharmacology
Advanced Clinical Practice
Contact Lens Clinical Practice

Fourth Year

<i>DIIDACTIC QUARTER</i>
Counseling Psychology
Visuo-neurological Dysfunction
Selected Readings in Optometry
Current Developments in Optometry
Ocular Health Assessment/ Emergencies
Practice Management
Health Education and Counseling
Health Care Quality Assurance
Contact Lens Clinical Practice

CLINIC QUARTER

Contact Lens Clinical Practice
Interdisciplinary Clinical Practice

CLINIC QUARTER

Students are required to take one of the following:
Pediatric Optometry Clinical Practice
Rehabilitative Optometry Clinical Practice
Pediatric/ Rehabilitative Optometry Clinical Practice
Students may take one of the Clinical Quarters during the first quarter (summer) of the fourth year.

The Curriculum

The College's academic organization is designed to facilitate the development of a health care practitioner with the attributes we have discussed.

There are four divisions in the academic structure:

- Vision Sciences
- Basic Health Sciences
- Primary Optometry
- Community Optometry

VISION SCIENCES DIVISION

Purpose and Scope

The purpose of the curriculum in the Vision Sciences Division is to provide the foundation of knowledge in optics and an understanding of the structure and function of the visual system. To that end, the content of the curriculum is presented within three different areas of study: optics, physiological optics, and neuroscience. Within the general area of optics, the specific content includes the topics of geometrical, ophthalmic, and physical optics. The physiological optics sequence includes visual perception, psychophysics, ocular physiology, and the motor mechanisms involved in vision. The neuroscience sequence includes ocular anatomy, neuroanatomy, and visual neurophysiology.

The course material provides the student with specific scientific information that builds the basis for

an understanding of clinical optometry. More generally, the study of vision science acquaints the student with scientific methodology and technology so that he or she will be competent to evaluate future demands and developments independently.

Educational Plan

In the first year, the comprehensive study of the normal structure of the visual system commences with a series of instructional units including ocular anatomy and embryology and the neuroanatomy of the sensory and motor pathways of the visual system. The foundation for more advanced topics in optics is provided through the study of geometrical optics, which includes the topics of reflection, refraction, and optical aberrations of mirrors, prisms, and lenses and the properties of some basic optical systems including microscopes and telescopes. In the area of physiological optics, topics included relate to the biochemical and biophysical properties of the eye, and introductory material pertaining to visual perception and psychophysics.

In the second year, the physical aspects of electromagnetic radiation are considered within the



framework of wave and quantum theory, and the principles of the measurement and specification of light are explained. Presentation of the concepts relating to our understanding of visual perception begins with a study of the visual photopigments and proceeds to descriptions, theories, and neurophysiological correlates of various perceptual phenomena, including dark adaptation, brightness perception, color vision, perception of distance and size, and stereopsis. The characteristics of the motor system including both the intraocular and extraocular muscles are examined as well as the interrelationships between the sensory and motor systems involved with vision.

In the third year, consideration is given to the development of visual perception and to both general and ocular pharmacology. The topics in pharmacology provide for a basic understanding of the mode of action of pharmacologic agents as well as an understanding of the systemic effects of various ophthalmic drugs.

In the fourth year, interested students may continue their study of basic visual science in elective courses. Electives range in emphasis from basic research to applied research and/or fundamentally clinical studies. Some electives are designed to acquaint the student with recent developments in vision science which have clinical implications.

Courses

Geometric and Visual Optics

Image formation by reflection and refraction in mirrors, lenses and prisms. Analysis of thin lens combinations and thick lenses in terms of cardinal points. Optical and physical constants of the eye. Refractive conditions of the eye, mechanisms of accommodation, limitation of rays by apertures, the function of the pupil, depth of field, and aberrations of optical systems and of the eye. Optical and ophthalmic instruments.

Ophthalmic Optics

The principles of geometric optics applied to the study of the optical characteristics of ophthalmic lenses

including spheres, cylinders, prisms, multifocal lenses, and contact lenses. Design parameters of ophthalmic lenses and their application to the correction of vision defects.

Radiometry/Photometry/Colorimetry

The measurement and specification of visual stimuli. Included are wave and quantum theories of electromagnetic radiation, photon energy and the relationship between photons, watts, and lumens, and characteristics of emission from various types of sources. The CIE system and color ordering systems, including the Munsell system of color notation.

Physical and Modern Optics

The physical processes involved in the emission and absorption of electromagnetic radiation. Wave and particle properties of light and the part these properties play in the interaction between light and matter. Theories of diffraction, interference, and polarization and the uses of these phenomena in modern science, including the latest developments in holography and optical fibers.

Psychophysics

Psychophysical methodologies, including the classical methods for the determination of absolute and difference thresholds, signal detection theory, and psychophysical scaling. Use of these procedures in exploring basic sensory processes.

Visual Perception

Analysis of information processing needed for visual recognition. Theories of pattern recognition, the place of memory processes in visual cognition, and the relation of Gestalt laws to form perception. The general problems of size, distance, and motion perception.

Ocular Physiology

Biochemical and biophysical properties of the eye including intraocular pressure and its regulation, aqueous humor, corneal metabolism and transparency, response of the cornea to injury, the function of tears, lens transparency, physical properties and function of the vitreous, visual pigments and bleaching, and metabolism of the retina.

Ocular Myology

Anatomical, physiological, neuropharmacologic, cybernetic and kinematic properties of motor systems related to the intrinsic (iris and ciliary) and extrinsic (extraocular and adnexal) musculature. Methods of measurement and specification of relevant variables.

Monocular Sensory Aspects of Vision

The physical and/or physiological basis of visual perception. The absolute threshold, duality theory of vision, light and dark adaptation, spatial aspects of vision including brightness discrimination, visual acuity and the contrast sensitivity function. Temporal aspects of vision, including afterimages, critical fusion frequency, and subfusional flicker phenomena. Theories of color vision, characteristics of normal and defective color vision, and clinical methods applied to the assessment of color vision status.



Visual Space Perception

Elements of spatial orientation including oculocentric and egocentric orientation. Considered are the empirical cues to depth, binocular correspondence, the horopter, Panum's area, fusion, rivalry, stereopsis, stereoacluity, and the neurophysiological aspects of binocular vision, and the nature of aniseikonia and its measurement.

Development of Visual Perception

Anatomy and physiology of early visual development and effects of visual deprivation on this development. Characteristics of sensory-motor anomalies, including strabismus and amblyopia, that relate to abnormal development. Maturation of visual perception and visual learning in infants.

Pharmacology

A two-component course dealing with the principles of (1) General and (2) Ocular Pharmacology. Special emphasis on contraindications, precautions, and methodology attending use of topically-applied ophthalmic diagnostic drugs and upon ocular and visual side effects of commonly used pharmaceuticals.

Ocular and Human Anatomy

A three-part course incorporating (1) Ocular Anatomy (2) Ocular Embryology and (3) Human Anatomy. Emphasis on ocular anatomy, which includes the macroscopic and microscopic anatomy of the eye, ocular adnexa, and extraocular muscles. Ocular embryology includes the development of all ocular structures from fertilization to term. Assigned readings and laboratory exercises provide a basic understanding of gross human anatomy.

Neuroanatomy

The gross and microscopic anatomy of the central nervous system including the neuroanatomical structures associated with the visual system. Includes the histology of neurons and glia, the experimental methods applied to the study of neuroanatomy, elementary physiology of single neurons, and the operation of neural networks. Knowledge of functional neuroanatomy is emphasized.

Visual Neurophysiology

The transduction, coding, and transmission of visual information and the relationship of neural events to the structure of the visual system and to perceptual phenomena. Visual behavior in terms of the integration of information from different regions of the brain.

BASIC HEALTH SCIENCES DIVISION

Purpose and Scope

The overall purpose of the Basic Health Sciences Division is to provide the student with an understanding of the normal and abnormal functions and behavior of the human organism.

Background is provided in the fundamental biochemical and biophysical mechanisms, as well as in the physiological and pathophysiological processes at all levels, from the subcellular through the cells, tissues, and organs of the human body.

Curricular topics include biochemistry, histology, microbiology, and immunology, as well as general physiology, pathophysiology, medical genetics and epidemiology.

Educational Plan

In the first year, emphasis is placed on the basic biological sciences. The student studies biochemistry, histology, endocrinology, neurophysiology, systems physiology, immunology, and microbiology.

In the second and third years, the curriculum is oriented toward the physiological and biomedical sciences. The student studies medical genetics, pathophysiology, and developmental and abnormal psychology.

Courses

Biochemistry and Molecular Biology

Structure and function of proteins, carbohydrates and lipids with special emphasis on genetic codes, energy transfer, and membrane chemistry.



Systems Physiology

Constituents of blood; properties of cardiac muscle; the heart as a pump; kidney metabolism and fluid balance; respiratory system and gas exchange; physiology of nerves and muscle.

Endocrinology and Nutrition

Regulation and modes of action of the pituitary, thyroid, parathyroid and adrenal glands; biochemistry and toxicity of vitamins; digestion.

Immunology

Elements of the immune response, antigens and antibodies; physiology of immunology; possible mechanisms for uveitis.

Microbiology

Classification of microorganisms; bacterial ecology and host-parasite relationships; infections of the eye.



Pathophysiology

Pathological processes; inflammation, repair and healing; infections, neoplasias and disturbances of cell growth; hemodynamic imbalances; selected topics in particular disease processes.

Developmental and Abnormal Psychology

Theories of human development; behavioral disorders and psychopathology.

Counseling Psychology

Doctor/patient communication and associated problems; community resources.



PRIMARY OPTOMETRY DIVISION

Purpose and Scope

The Primary Optometry Division is charged with providing the student with the applied knowledge, specific skills, clinical insights, and patient-handling capabilities required of the optometrist in general practice. Primary optometry emphasizes rational diagnosis and therapy, but includes also approaches to patient care based upon empirical knowledge.

Topical areas covered include general characteristics of human vision problems; measurement of the ocular refractive state; ophthalmic lenses, devices, and appliances; assessment of binocular status; detection of ocular, as well as systemic, disease; clinical diagnosis; and optometric therapy.

Educational Plan

In the first year, instruction in the Primary Optometry Division is directed principally toward terminology,

and toward a rudimentary understanding of the ametropias and anomalies of accommodation — with the additional goal of developing a standard set of basic clinical skills.

In the second year, students acquire an in-depth understanding of the ametropias and accommodative anomalies. They learn concepts related to the fitting of contact lenses; are introduced to methodologies for evaluating motor and sensory anomalies of vision and methods of assessing the status of binocular vision; are introduced to clinical disease; and learn clinical optics and acquire certain ophthalmic mechanical skills. In clinical laboratories, students are taught additional testing methods, procedures useful in general and ocular health assessment, the principles of emergency care, contact lenses, and binocular vision assessment. In the second-year clinic, they gain experience in the execution of each of the basic examination procedures learned in the pre-clinical laboratory. Under the guidance of a preceptor, students develop skills needed for patient interviewing, and learn to correlate optometric findings in order to detect paradoxical findings and/or erroneous data. They develop clinical insights into the treatment and management of visual problems. Through observation of a preceptor and through direct patient involvement, students develop the basic skills of patient management.

In the third year, students obtain an in-depth understanding of clinical evaluation of visual function. They study further the diseases of the eye and systemic disease and learn how these are diagnosed. In the clinic, students' skills in diagnosis, case analysis, prescription, binocular vision assessment and therapy, patient management, and interdisciplinary approach to patient care are sharpened. Students acquire the attitude and demeanor of health professionals; attain clinical skills related to general health assessment; develop a more thorough understanding of clinical pharmacology, especially as this relates to the clinical use of ocular diagnostic drugs and their application to disease detection; and come to appreciate the role of the primary health care practitioner. They learn how to apply the principles of clinical epidemiology and the

skills of the first-contact health professional to patients with previously undetected health problems. Students develop the ability to formulate judgments consistent with each patient's best interest. Students further develop their clinical skills working in various health delivery models. Students acquire diverse experiences by working with patient populations that have widely varying clinical characteristics. Clinical seminars contribute to the maturation of the students' professional judgment and clinical wisdom.

Additionally, students participate in the College's community vision screening programs in which staff and equipment for general vision screening are set up in schools, neighborhoods, housing developments, or at industrial plants — anywhere that large numbers of people are concentrated. Visual problems identified through such programs are then referred to appropriate eye care professionals for follow-up.

In the fourth professional year, students further their knowledge in the detection and management of patients with ocular disease, emergency procedures, and neurological assessment. Recent advances in the field and advanced subject matter are addressed in a program of special lectures and readings. The clinical experience continues in the Division of Community Optometry.

Courses

Basic Optometric Theory and Methods

Theoretical principles underlying the elements of the optometric examination including measures of visual acuity, external evaluation procedures, keratometry, retinoscopy, subjective refraction, and phorometry.

Refractive and Accommodative Anomalies

Classification, etiology, incidence, symptoms, diagnosis, and treatment of myopia, hyperopia, astigmatism, anisometropia, accommodative anomalies and aphakia.

Anomalies of Binocular Vision

Diagnosis, classification, and treatment of heterophorias including epidemiology and etiology,

binocular refraction, motor evaluation, graphical analysis, fixation disparity, and introduction to treatment procedures.

Sensory and Motor Anomalies

Clinical assessment of visual acuity, macular integrity, visual fields, acquired color defects, integrity of cranial nerves, pupillary reflexes, anomalies of extra-ocular muscles, and nystagmus.

Visuo-neurological Dysfunction

Topics in the field of visuo-neurology, including transient loss of vision, eye pain, headache, optic nerve disease, supranuclear disorders of eye movement, and non-ocular neurological symptomatology.

Selected Readings in Optometry

Readings on significant topics within optometry which serve to increase the student's breadth and depth of knowledge.

Current Developments in Optometry

An invited lecture series designed to provide an update on recent developments and to supplement the normative curriculum.

Patient Interviewing

Interpersonal skills and skills in history-taking are examined, evaluated and remediated through lectures and small-group workshops utilizing videotapes of clinician-patient interviews.

Optometric Methods

Laboratory practice in elementary optometric procedures including acuity testing, keratometry, external examination, subjective refraction, retinoscopy, tonometry, lensometry, biomicroscopy, visual fields, and case history.

Mechanical Optics

Lectures and laboratory cover ophthalmic fitting, adjusting and repair procedures, prescription ordering, verification, inspection, and lensometry.

Contact Lens Theory and Methods

Lectures and laboratory concerned with the various elements of hard and soft contact lenses and other lens materials; verification of specifications, lens handling,

fitting procedures, diagnostic techniques and dispensing; corneal physiology.

Applied Ocular Pharmacology

Review of topics in ocular pharmacology. The clinical use of diagnostic drugs in tonometry, gonioscopy, and indirect binocular ophthalmoscopy.

Clinical Medicine for Optometrists

Principles of medicine applicable to optometry and recognition of ocular manifestations of systemic disease. Topical material includes medical history and physical examination; cardiovascular disease; neurological and endocrinological disorders; immunology, rheumatology, and allergy; nutritional





and metabolic disorders; oncology and hematology, and selected aspects of pulmonary, renal, and gastrointestinal disease.

Ocular Disease

Mechanisms in ocular pathology including inflammation, neoplasia, glaucoma and vision loss. Signs and symptoms of specific categories of disease including the orbit, ocular adnexa, conjunctiva, cornea, sclera, uvea, lens, vitreous, retina, optic nerve, and neural visual system.

Ocular Assessment/Emergencies

Selected topics in ocular disease: in-depth methodologies for the symptom-oriented investigation of ocular disease and appropriate management thereof; ocular emergencies including presentation of overt insult to the eye — foreign bodies, abrasions, lacerations and chemical burns; and management of patients with sudden vision loss, diplopia or ptosis. General emergencies include: dealing with patients with syncope; seizures; acute airway obstruction; hypoglycemia; cerebro-vascular accident; drug-induced collapse and psychiatric disorders; respiratory disorders; shock and trauma; thermal injuries; intoxications and ingestions; and legal implications of emergency care.

COMMUNITY OPTOMETRY DIVISION

Purpose and Scope

The Division of Community Optometry provides instruction in rehabilitative, pediatric, environmental, and public health optometry.

Rehabilitative optometry includes consideration of deterrents to normal binocularity such as aniseikonia; certain pathological anomalies amenable to optical restoration; low vision which can be ameliorated; certain unusual sensory visual problems; and conditions requiring ocular prostheses.

Curriculum offerings in pediatric optometry include an overview of the evaluation of infant vision;

presumptive diagnosis and methods of amelioration of strabismus; and the identification of vision problems associated with developmental behavioral disorders.

Faculties in these specialties also serve the curriculum by preparing students to cooperate effectively with pediatric optometrists, rehabilitative optometrists, and environmental and industrial optometrists in the treatment of those unusual problems for which professionals are specifically trained.

The faculties in pediatric and rehabilitative optometry are responsible for organizing and supervising clinical teaching programs involving special population groups with high prevalences of unusual vision problems.

The subject matter of environmental optometry is designed to prepare students to analyze and solve problems of the eye or visual process arising through the patient's interaction with the physical environment. Special visual problems can arise from both normal variations and unfavorable alterations in the environment, as well as from performance demands or safety hazards. Such problems, which can affect individuals or groups, are not usually amenable to standard medical, refractive, or vision therapy diagnosis and solutions in the special environment of the optometric office.

Curriculum offerings in public health include epidemiology, health care systems, health education and counseling, and quality assurance.

An additional function of the faculties in rehabilitative, pediatric, and environmental optometry is to provide residency training in these specialties.

While the curriculum in the Primary Optometry Division prepares the student to diagnose and treat common visual problems, the four faculties which constitute the Community Optometry Division are concerned primarily with teaching the future general optometrist to recognize unusual problems and to work with specialists who are able to ameliorate these problems.

Educational Plan

Didactic instruction in the specialty areas is offered in the third year. Emphasis is on diagnosis, which requires a thorough understanding of the content of primary optometry, visual science, and the basic health sciences.

Clinical experience with children and the elderly is provided by a twelve-week clinical rotation scheduled during the fourth year. Rotations are structured so that each student sees patients from the two respective populations. Instructional units in public health are offered in the first, third, and fourth years.

In addition to didactic and clinical teaching, the public health faculty is responsible for increasing student awareness of new developments in health care planning and legislation affecting the delivery of optometric care. This faculty also is charged with the responsibility of inculcating appropriate attitudes regarding ethics of patient care and professional community responsibilities through seminars, visiting lecturers, and the use of preceptors who work with the student in clinical settings.

Courses

Health Care in the United States

Description of the larger health system and the optometrist's relationship to it through the disciplines of history, economics, law and clinical medicine.

Epidemiology

Study of the determinants of disease as well as other variables, including the behavior of health care providers and patients, that determine health outcome.

Health Care Quality Assurance

A view of 'quality assurance' as a multidimensional process which, at a minimum, requires accurate measures of the technical competence of the provider and mechanisms to improve the level of practice.

Practice Management

Training the future practitioner to effectively enter and successfully practice the profession of optometry with self-satisfaction and for the betterment of the community.

Health Education and Counseling

Identification of the optometrist's role as a health educator resource within the community and the development of the skills and knowledge necessary to fulfill this role.

Pediatric Optometry

Diagnosis of binocular visual anomalies, treatment of these anomalies with lenses or visual training; identification of learning disabilities in children.

Rehabilitative Optometry

Diagnosis, management, and treatment of low vision anomalies caused by the degenerating effects of age, or by disease or injury.



The Clinical Experience

Broadly speaking, the objective of the clinical experience is to help optometric students become competent patient care professionals who can apply scientific knowledge, tempered by clinical insight and overall concern for the patient, in order to solve problems of vision.

The clinical experience is designed to bring the student along in discrete steps beginning in the lecture-laboratory setting and progressing to a one-to-one relationship between the student and patient. As the student progresses through the second, third, and fourth year, clinical time increases.

The preceptorship method of clinical teaching is used throughout the program. Initially, close supervision is exercised; supervision is gradually relaxed as the student develops greater clinical proficiency and assumes more responsibility. The role of the preceptor gradually changes from that of an overseer to that of a consultant as the student progresses from the second through the fourth academic year.

Through the clinic system, each student meets a broad spectrum of patients, practices a comprehensive range of eye-care skills under professional supervision, becomes familiar with



different systems for the delivery of health services, and learns to work effectively with practitioners from other health disciplines.

Students serve clinical rotations in varied settings, including general vision care clinics, traditional hospitals, neighborhood health centers, and specialty clinics.

The New England College of Optometry operates three internal clinics. Two specialty clinics, providing pediatric and rehabilitative services, are located at the Beacon Street campus. A few blocks away, in Kenmore Square, The Boston Eye Clinic offers general, contact lens, ophthalmological, and ocular photographic services.

The College also maintains a large number of clinic affiliations with existing health care institutions in

which students receive training in multidisciplinary health care delivery. Currently, institutions with which the College is affiliated and at which students receive clinical training include:

General

Dimock Community Health Center — Eye Care Service (Boston)

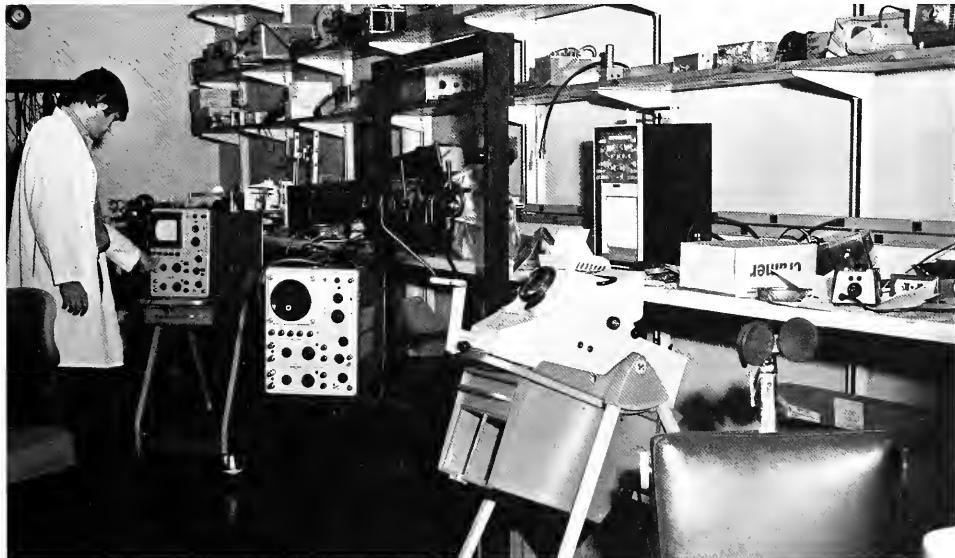
Dorchester House Multi-Service Center — Eye Care Unit (Boston)

South End Community Health Center — Eye Care Center (Boston)

Huntington General Osteopathic Hospital (Boston)

U.S. Public Health Service Hospital (Boston)

Great Brook Valley Community Health Center (Worcester)



North End Community Health Center (Boston)
East Boston Neighborhood Health Center (Boston)
Central State Hospital (Milledgeville, Georgia)
Hadassah University Hospital (Jerusalem, Israel)
University of Massachusetts Health Services (Amherst)
Mary Imogene Bassett Hospital (Cooperstown, New York)
Walter Reed Medical Center (Washington, D.C.)
Veterans Administration Hospital (Providence, R.I.)
Veterans Administration Hospital (Newington, Connecticut)

Special Populations

Pediatric

Dimock Community Health Center — Eye Care Service (Boston)
Dorchester House Multi-Service Center — Eye Care Unit (Boston)
Cotting School for Handicapped Children (Boston)
Western Massachusetts Hospital (Westfield)

Hogan Regional Rehabilitation Center (Danvers)
Gesell Institute (New Haven, Connecticut)

Rehabilitative

Veterans Administration Outpatient Clinic (Boston)
Tewksbury State Hospital (Tewksbury)
Rutland State Hospital (Rutland, Vt.)
Danvers State Hospital (Danvers)
Veterans Administration Eastern Regional Blind Rehabilitation Center (West Haven, Connecticut)
South End Community Health Center (Boston)

The wide network of clinics allows the student to see patients from all age groups and from a broad array of geographical and cultural settings.

The system permits students to learn to work effectively with professionals from disciplines such as ophthalmology, neurology, pediatrics, psychiatry, internal medicine, and psychology.

Each student has rendered primary care to several hundred patients by the time he or she graduates.



The Accelerated Two-Year O.D. Program

This program, for students with advanced credentials, leads to the O.D. degree after two years of concentrated study. By graduation, students are required to have mastered all of the curriculum material of the four-year program.

To be considered for admission to the two-year program, the applicant must hold an earned doctorate in one of the biological, physical, or behavioral sciences. In addition, the applicant must have demonstrated high scholarship in graduate study and be strongly motivated to enter the profession of optometry.

The program is designed to take advantage of the intensive backgrounds of the students, their ability for concentrated independent study, and previously developed educational skills.

Students entering the two-year program are expected to attend an interview at the College to determine their suitability for the study of optometry and to assess their potential contributions to the profession. In initial letters of inquiry, eligible students should indicate their desire to enter the two-year program.

See page 30 for tuition information for the accelerated two-year program.

Optometric Technicians Program

The New England College of Optometry and Fisher Junior College jointly offer a two-year program for optometric technicians leading to the Associate in Science degree with a major in optometric technicianry. Fisher Junior College, located in the Back Bay, provides the required liberal arts and business education, and The New England College of Optometry provides technical training and education and oversees the students' clinical experience at a variety of Greater Boston clinics.

There is increasing need for trained paraprofessionals who can assist optometrists. Graduates of this program bring to their work training in optometric procedures, secretarial office procedures, and substantial study in the liberal arts.



The program is accredited by the American Optometric Association, and graduates qualify for listing in the National Registry of Optometric Technicians.

In addition to the two-year program, a one-year accelerated program exists for transfer students with appropriate college credits. Transfer students take an intensive summer program which concentrates on those optometric courses covered in the first academic year, then enter the second academic year with students from the two-year pattern.

Admission to the two-year optometric technicians program is dependent upon graduation from an approved secondary school and a suitable high school transcript. Submission of S.A.T. scores is desirable. Admission to the accelerated one-year program requires the above plus the successful completion of at least one year at an accredited college or university, and transcripts of college work.

Admission procedures for both programs are directed by Fisher Junior College, and interested applicants should direct their inquiries to:

Director of Admissions
Fisher Junior College
118 Beacon Street
Boston, Massachusetts 02116

The New England College of Optometry also conducts an in-office study program for optometric assistants interested in upgrading their skills to the level of optometric technicians while continuing to hold a full-time job.

Students accepted into the in-office program must have a high school diploma or its equivalent, be

employed by an optometrist, plan to remain working with the same optometrist for the duration of the program, and have the agreement of their employer to cooperate with the College in the prescribed methods of instruction.

Upon completion of the program, the student will receive a certificate of completion, as well as academic credit from the College which can be applied toward an associate's degree from Fisher Junior College.

Interested applicants should direct inquiries to:
Coordinator, Optometric Technicians Program
The New England College of Optometry
424 Beacon Street
Boston, Massachusetts 02115

Post-Doctoral Residencies in Rehabilitative Optometry

The College offers a one-year residency training program in rehabilitative optometry in conjunction with the Veterans Administration. A residency in rehabilitative optometry is available through the College's Rehabilitative Optometry Specialty Clinic. The Clinic accepts patients only by referral.

Applicants for these residencies should be recently-graduated optometrists with excellent scholastic records, strong clinical potentials, and profound interest in dealing with extraordinary visual problems.

Interested applicants should direct inquiries for additional information to:

Director, Division of Community Optometry
The New England College of Optometry
424 Beacon Street
Boston, Massachusetts 02115



Continuing Education

The College considers continuing education a major institutional responsibility, and is dedicated to serving the needs of members of the profession throughout their careers.

Through its Continuing Education program the College offers special courses designed both to refresh the practitioner's skills and to help him or her keep up to date with advances in clinical techniques and science relevant to the practice of optometry.

The College's Continuing Education program has undertaken expanded regional and national responsibility by offering courses at sites throughout New England and in other parts of the country.



3 Admission

Admissions Policies

The New England College of Optometry attempts to identify and admit students who are firmly committed to, and have sound aptitudes for, improving the human condition through the profession of optometry. In practice, then, the College looks for students with a background of traditional courses in the arts and special capability in three areas: biological, physical, and behavioral sciences.

Generally, the College maintains a flexible admissions policy. While we look for students with superior science aptitude, we recognize that excellent academic performance in other subject areas is also an important indicator of probable success in optometry.

We expect students to participate actively in the learning processes available to them here. We anticipate that they will both demand and help to provide a climate conducive to active learning.

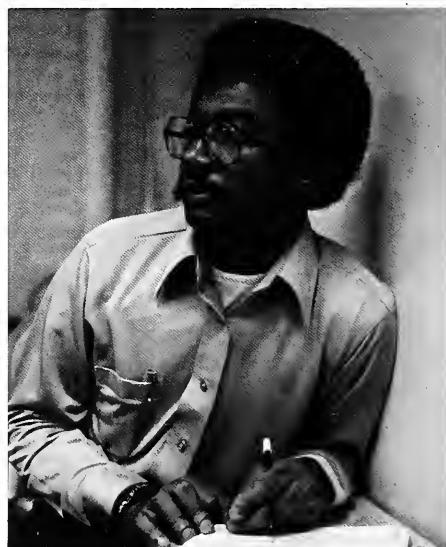
In an effort to insure that the students we accept will succeed both in their studies at the College and in the profession of optometry, we attempt to select only students who have:

- strong commitment to learning
- high sense of social concern
- great respect for individual dignity
- strong desire to become an optometrist
- ability to understand the responsibility and societal obligations of professionals.



We examine all obtainable data which can serve to indicate the student's possession of the above characteristics. Factors we have found particularly useful include:

- recommendation of applicants by people of respected judgment
- grade point average
- scholastic aptitude test scores
- Optometry College Admission Test scores
- university or college attended
- content of courses pursued in pre-optometric college education
- extra-curricular activities
- ability to communicate and articulate
- academic potential
- leadership potential
- personality and demeanor
- medical history





Characteristics of the average student at the College have changed considerably over the past decade. The number of applications for admission has increased more than three-fold since 1970, and scholastic credentials of applicants generally have improved significantly.

In 1978, 82 of the 89 enrollees in the entering class of the four-year O.D. program possessed at least a bachelor's degree, and seven had advanced degrees. Women comprised more than 20 percent of the class. The mean G.P.A. for the 1978 entering class was 3.18.

Students with just three years of undergraduate work are encouraged to apply for admission only if they have unusually strong academic records and high test scores.

Applicants from all states and foreign countries are considered for admission. Several state legislatures, especially but not only of the six New England states (Massachusetts, Connecticut, Maine, Rhode Island, New Hampshire and Vermont), have contracted with the College to ensure that spaces are available for their qualified residents over and above the number that might be filled in open national competition. In this way, the states which participate in this program help to ensure that their future optometric needs will be met. A student admitted under a state contract will typically pay the same tuition as other students. His chance for admission will, however, be higher than it would have been in open competition with all applicants. It is the policy of the College to increase the number of spaces covered by such contracts. Students who enter under these contracts may be

subject to requirements set by their state, such as a commitment to practice in that state for a certain period of time following graduation, or a requirement of partial or full repayment of the funds advanced by the state. These requirements differ from state to state.

Entrance Requirements

A curriculum designed to educate individuals in the optometric profession must begin at a fairly complex level. Consequently, students entering such a program must have a basic prerequisite knowledge to insure minimal difficulty with the material presented in the educational program.

To be considered for admission, applicants must have completed the following course work satisfactorily:

(1) A minimum of three years' study at an accredited college or university. (Students who meet only this minimal educational background requirement should have demonstrated unusually strong academic achievement.)

(2) Specific courses:

Chemistry	one year (including organic chemistry)
with Lab	
Biology	one year (topics of cell structure and cell physiology are included in general biology)
with Lab	
Mathematics	one year (including calculus)
Physics with Lab	one year
English	one year
Psychology	one semester
Statistics	one semester
Humanities	two years
Social Sciences	two years

Application Instructions

Application for admission to the College should be filed at the earliest possible date after September 1. The deadline for completion of the application process is March 1. Applications completed after this date are seldom considered for the next entering class. Applicants are required to submit the following:

1. A completed application form, along with a check or money order in the amount of \$50, payable to The New England College of Optometry. The application fee is non-refundable.
2. Complete, official transcripts of all secondary schools and colleges attended, plus results of the Optometry College Admission Test (OCAT) and all standardized tests taken (SAT, CEEB Achievement Tests, Graduate Record Exam). Arrangements can be made for taking OCAT's by contacting the Psychological Corporation at 304 East 45th Street, New York, NY 10017. It is strongly urged that applicants take the test no later than the fall of the year preceding the desired admission date. Scores from the March OCAT are not available in time to support admission the following September.
3. Recommendation from the Pre-Professional Committee, if your school has one. The committee

recommendations are usually a composite or series of letters, but count in total as just one recommendation. Two letters from professors the applicant personally had in college may be substituted when no such committee exists.

Interviews with at least two members of the Admissions Committee are required in all but exceptional instances. Interviews are initiated by the Committee; however, students who wish to visit the school for counsel prior to formal application are invited to request an appointment.

Application forms and complete details may be obtained from:

Dean of Student Affairs
The New England College of Optometry
424 Beacon Street
Boston, Massachusetts 02115

All material submitted to the College in the course of the admissions procedure becomes the property of the College. It will be respected for its confidentiality, but will not be returned or forwarded.

Transfer Students

When openings in advanced classes permit, the College accepts students currently enrolled in an accredited school or college of optometry. Placement is contingent upon satisfactory completion of courses equivalent to those in The New England College of Optometry curriculum.

Transfer credits are accepted only after review of the applicant's optometry school transcript by the Academic Dean and the Dean of Student Affairs. Official approval and certification of good academic standing is required from the dean of the school the applicant is currently attending.



Veterans Policy

Eligible veterans are especially encouraged to apply for admission.

The New England College of Optometry is approved for study under Public Law 348. Veterans covered by this law are expected to pay all charges in the same manner as non-veterans. Their tuition deposit is returned when their certificate of eligibility is received by the Financial Aid Administrator, who serves as the veterans counselor.

The Financial Aid Administrator will assist all qualified veterans in securing funds from the Veterans Administration, certify their attendance at the College, and process V.A. forms in order to expedite payment to the veteran.

The V.A. also provides a work-study allowance for veterans pursuing a full-time program of education. The maximum allowance is \$250 for 100 hours of service performed during an enrollment period. No veteran may be awarded a V.A. work-study allowance of more than \$250 in any one fiscal year. When fewer than 100 hours are undertaken, a pro-rata portion of the \$250 is paid.





4 Financial Information

Tuition and Fees

The Board of Trustees of the New England College of Optometry established a new tuition policy in February 1980. It is referred to as Balanced Tuition and applies to first year students in the 1980-1981 academic year.

Balanced Tuition is based on the College's total cost of providing the education reduced by institutional income from outside sources. The actual tuition paid by students is this amount less any applicable financial support.

Currently, much of the financial support for students is derived from contractual arrangements between the College and individual states. These contracts reserve a set number of spaces for regional students in the four-year O.D. program, and allow these students to compete for admission only with others from the same state. The value of these contracts varies, but in 1979-1980 they averaged \$4,400.

Applicants should contact the Admissions Office to find out if their state has a contractual arrangement with the College.

TUITION 1980-1981

Four-year O.D. Program

1st year	\$ 8,970
2nd year*	5,474
3rd year*	5,117
4th year*	4,887

Two-year O.D. Program

1st year \$11,960
2nd year 6,624

* previous tuition policy applies

EEES 1980-1981

Application Fee	\$ 50
Tuition Deposit (payable upon notification of acceptance; applies toward tuition)	500
Activities Fee	42

All tuition and fees are due and payable on or before the first day of Registration at the beginning of

each quarter, except those of in-coming students, which are due July 15. No student may complete registration or attend classes without having paid all charges in full or making appropriate arrangements to do so with the Dean of Student Affairs. The Board of Trustees reserves the right to change tuition and fees with no less than ninety days notice.

Refund Policy

Tuition and fees are refunded to the student who withdraws or is dismissed from the College in accordance with the following formula:

Withdrawal Date	Percent Refunded
Prior to the first day of class	100 percent less \$100
During the first two weeks	75 percent
During the first four weeks	50 percent
During the first eight weeks	25 percent

Financial Aid

The College administers limited funds to assist qualified students in meeting their financial obligations. However, the staff is also aware of the financial hardship which the new tuition policy may impose on some students. We are, therefore, committed to expand our financial aid effort. Financial Aid Officers will work on a one to one basis with all qualified applicants to create a package of low cost loans, grants in aid, work study, and other forms of assistance.

Applicants for financial aid, whether new or returning students, must file the following forms with the Office of Financial Aid:

1. A NEWENCO Financial Aid Application.
2. A Graduate and Professional School Financial Aid Service (GAPSFAS) form filled out by the student and his/her parents. These are available by writing to GAPSFAS, Box 2614, Princeton, New Jersey 08541, or from the NEWENCO Financial Aid Office. This form is required regardless of the applicant's age or status.

3. Copies of the student's (and spouse's) federal and state income tax returns, or, if he or she did not file, a notarized statement to the effect. The Committee on Financial Aid reserves the right to require copies of parents' federal and state income tax returns should they feel it necessary.

The College administers three sources of financial aid available to students. The *National Direct Student Loan Program* provides low interest (3%), long-term, deferred loans. The *Health Professions Loan Program* provides long-term, deferred loans at 7% for students enrolled in a health professional course of study. The *College Work-Study Program* promotes the part-time employment of students. Available job opportunities are posted. Eligibility for funding from these three sources is determined by the Office of Financial Aid.

One NEWENCO fellowship which covers full tuition remission is awarded each year. To be eligible a student must represent an ethnic or racial minority within the United States or be a citizen of a developing country. Applications are available in the spring from the Office of Student Affairs.

Other small *scholarship* monies are awarded with eligibility determined by financial need and academic standing. These applications are available during the year from the Office of Financial Aid.

The *Guaranteed Student Loan Program* enables the student to borrow directly from a bank, credit union, savings and loan association or other participating lender which is willing to make the loan. Graduate and professional students may borrow up to \$5,000 per year with a total aggregate borrowing limit of \$15,000 including loans made at the undergraduate level.

The Health Education Assistance Loan (HEAL) Program allows a student to borrow up to \$10,000 per year with a total aggregate borrowing limit of \$50,000. Eligible lenders (banks, savings and loan, etc.) may charge up to 12% interest. Interest accrues while the student is still in school. Please note that a student may not receive *both* a HEAL Loan and a Guaranteed Student Loan for any part of the same academic year.

Further detailed information on all the above programs and a Financial Aid Handbook can be obtained by calling or writing NEWENCO, Office of Financial Aid, 424 Beacon Street, Boston, Massachusetts 02115.





5 Academic Information

Registration

In order to register, the entering first-year student must:

1. fulfill all prior academic requirements before the stated enrollment date;
2. remit tuition and fees as specified in a written communication from the Registrar within the designated time limit; and
3. report for registration as specified in the communication from the Registrar and participate in formal registration procedures.

Second-, third-, and fourth-year students in the four-year program and second-year students in the two-year accelerated program may pre-register by mail.

Grading Policy

In lecture and laboratory, students are evaluated primarily on the basis of academic performance. Technical skills, applied knowledge, clinical judgment, patient handling skills, demeanor, and attitude are considered in the evaluation of student performance in clinical training.

All didactic subjects taken during the first three years of the four-year professional program are graded as follows:

A = Outstanding academic achievement (4 quality points)

B = Good academic achievement (3 quality points)

C = Adequate level of academic performance (2 quality points)

D = Marginally passing level of work (1 quality point)

F = Failing

I = Incomplete. This is a *temporary* grade assigned to a student who has not completed all of the requirements of a course within the specified time. The grade of Incomplete is not used as a substitute for a grade of F and is used only when the work which the student has completed is of

passing quality. The grade of Incomplete must be accompanied by a written statement from the instructor which identifies what requirements have not been met and what the student must do to complete the course. If the student does not complete these requirements by the end of the quarter following the one in which the grade of Incomplete was assigned, the grade will automatically be changed to F.

EX = Exempt

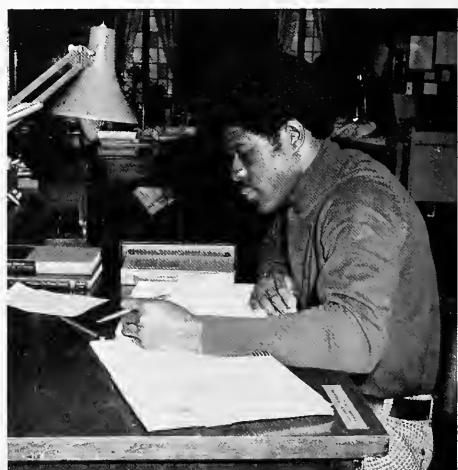
AUD = Audit

All didactic subjects for the two-year professional program are graded in the same manner as their equivalent four-year courses.

Clinic courses in the four-year professional program and the two-year professional program are graded as follows:

Pass with Honors = Outstanding level of achievement in all areas

Pass = Competent performance



Fail = Unsatisfactory performance. A clinical grade of F is given when a student demonstrates significant unsatisfactory performance in one or more clinical areas. A clinic grade of F makes a student subject to dismissal.

I = Incomplete. A clinical grade of Incomplete indicates one or more remedial areas of deficiency. A clinic incomplete may preclude a student from proceeding in the clinical program until work is made up in a satisfactory manner. The clinical incomplete is given to a student who demonstrates minimally deficient achievement in one or more areas, which must be made up within one quarter. All didactic subjects for the fourth-year class in the four-year program will be graded as follows:

Pass

Fail

Incomplete

Academic Status

The College attempts to identify students experiencing difficulty as early in their academic careers as possible.

At mid-term, each faculty member provides the names of students who have academic problems. These students are asked to meet with the chairman of the Student Affairs Committee or, at the student's option, with the full Committee. The Committee attempts to make specific recommendations to improve the student's performance.

At the end of each grading period, the faculty meets to discuss the academic performance of each student.

Students who are judged to have significant academic problems at the end of the grading period are required to meet with the Student Affairs Committee.

If, as a result of this meeting, specific courses of remediation cannot be offered, one of three courses of action generally is taken: the student is issued an academic warning, put on academic probation, or dismissed from the College.

Academic Warning

An academic warning is issued when performance is marginal in general or in specific areas. The notification indicates that more stringent action will be taken if performance does not improve. Generally, a student receiving one D or earning a cumulative grade point average between 2.0 and 2.2 will be placed on academic warning.



Academic Probation

A student will be placed on probation if any of the following occurs:

- (1) the student receives one F or two D grades in one grading period;
- (2) an academic warning issued in writing by the Student Affairs Committee is not removed to the satisfaction of the instructor and the Committee by the end of the next grading period.

Dismissal

A student is subject to dismissal from the College if any of the following occurs:

- (1) the student received two F grades or more than two D grades in didactic courses in one grading period, or one failing grade in clinic;

- (2) the student fails to attend scheduled classes for more than one week or clinic for more than one session without approval of the Academic Dean;
- (3) the student's cumulative grade point average remains below 2.2 for two consecutive quarters;
- (4) the student is found guilty by the Student Affairs Committee of unprofessional conduct;
- (5) the student fails to remove an academic probation status by the end of the next grading period.

If in the judgment of the Student Affairs Committee the presence of any other conditions indicates that the student is unsuited to study in the College and/or to the future practice of optometry, the student shall be subject to dismissal from the College.

Students dismissed for disciplinary reasons are not permitted readmission to the College.



Academic Commendation

Letters of commendation are sent to students whose work the faculty judges to be outstanding, and such students become eligible for nomination to the Beta Sigma Kappa honorary optometry society. Selection criteria for Beta Sigma Kappa are described on page 41.

A number of awards are presented for academic and clinical excellence. Presentation criteria are available from the office of the Dean of Student Affairs. Awards presented by the College include the following:



The New England College of Optometry Clinic

Award

Daniel Kuperstein Memorial Award

Valedictory Award

Beta Sigma Kappa Silver Medal Award

Gold Key International Honor Society Award

Dr. Ralph H. Green Gold Medal Award

Dr. Edward Joseph Troendle, Jr., Award

The New England College of Optometry-Fisher

Junior College Technician Award

Keystone Award for the Outstanding Pediatric and Binocular Vision Clinician

Robert Morgan Community Health Services Award

Alumni Association Award

Frederick E. Farnum Alumni Award

Bausch and Lomb Contact Lens Award

The Vodnoy Optometry Clinical Science Award

Awards presented by the American Optometric Foundation include:

Harold Kohn Memorial Award

J. Harold Bailey Award

Irvin M. Borish Award

Frederick W. Brock Award

Glenn Fry Award

Spurgeon B. Eure Award

Withdrawal

A student in good academic standing who is not subject to disciplinary penalties is entitled to honorable withdrawal from the College at any time. A student desiring to withdraw must notify the Academic Dean and the Student Affairs Committee in writing at least two weeks prior to final exams.

A student who has been granted an honorable withdrawal from the College may be reinstated within a reasonable period of time, provided that changes in the curriculum do not make such readmission impractical. Decisions in all cases rest with the Student Affairs Committee.

Degree Regulations

Students in the four-year program may earn one or both of the following degrees.

Bachelor of Science in Optometry (B.S.)

Students who have completed a minimum of sixty semester hours or equivalent (twenty hours of which must be in social sciences and twenty hours of which must be in humanities, and none of which may have been applied toward a prior baccalaureate degree) may apply for the degree of Bachelor of Science in Optometry. The degree is awarded on the recommendation of the faculty and by approval of the Board of Trustees upon successful completion of the first two years of the four-year program.

Doctor of Optometry (O.D.)

The Doctor of Optometry degree is the professional degree and is a prerequisite of licensure eligibility. Award of the degree is made by the Board of Trustees upon recommendation of the faculty following satisfactory completion of the professional curriculum in optometry.

The College also awards the following honorary degrees:

Doctor of Ocular Science (D.O.S.)

This degree is conferred upon those who have rendered distinguished service to the profession of optometry and/or to the field of visual science.

Doctor of Humane Letters (H.L.D.)

This degree is conferred upon individuals who have been outstanding benefactors to the College and/or have rendered distinguished service to the community, state or nation.



Grievance Procedure

It is believed that sound educational policies in conjunction with a practical affirmative action program are the most effective means of insuring fair and equitable educational opportunities. However, it is also recognized that changing institutional and individual needs; the human element in relations among students, faculty, and administration; and the complexities of personal interaction within the educational environment require mechanisms whereby students can seek redress or adjustment of conditions that affect them.

The College's grievance procedure has been designed to meet that need. The College's Affirmative Action Officer provides avenues for constructive criticism and proposed changes in policy or organization.

Any student who feels he or she has been

discriminated against on the basis of race, color, religion, sex, or national origin, should detail the grievance in writing to the Dean of Student Affairs. If, within ten days, the Dean of Student Affairs has been unable through informal efforts to resolve the issue to the mutual satisfaction of all, the Dean will appoint a Grievance Committee. The Committee will include the Academic Dean; the Dean of Student Affairs; two Student Council members, who, at the option of the aggrieved student, can be selected by the aggrieved student; and the Director of Institutional Affairs, who will chair the committee. The Grievance Committee will meet within fifteen days from the date the written grievance is received by the Dean of Student Affairs. If the Grievance Committee does not resolve the issue within thirty days, assistance will be sought from the D.H.E.W. Region I Office of Civil Rights.





6 Student Services

Counseling

The College offers appropriate counseling to students whose academic progress is impeded either by a personal problem or an academic deficiency.

Students requiring psychological counseling are referred, at no cost to them, to a psychologist in private practice, upon approval of the Dean of Student Affairs. Such counseling is treated as confidential.

A tutorial system for students also is maintained. The program is administered by the Dean of Student Affairs.

Housing

The College has no dormitory facilities, and students must be prepared to make their own arrangements for locating suitable living accommodations in the Boston area. The College assumes no formal responsibility for finding these accommodations, but a copy of *A Renter's Guide to Boston* is on hand in the College library, and the office of the Dean of Student Affairs can provide helpful tips and occasionally information as to other students seeking roommates.

The campus is located within walking distance of numerous apartment facilities and is three blocks from the nearest subway stop.

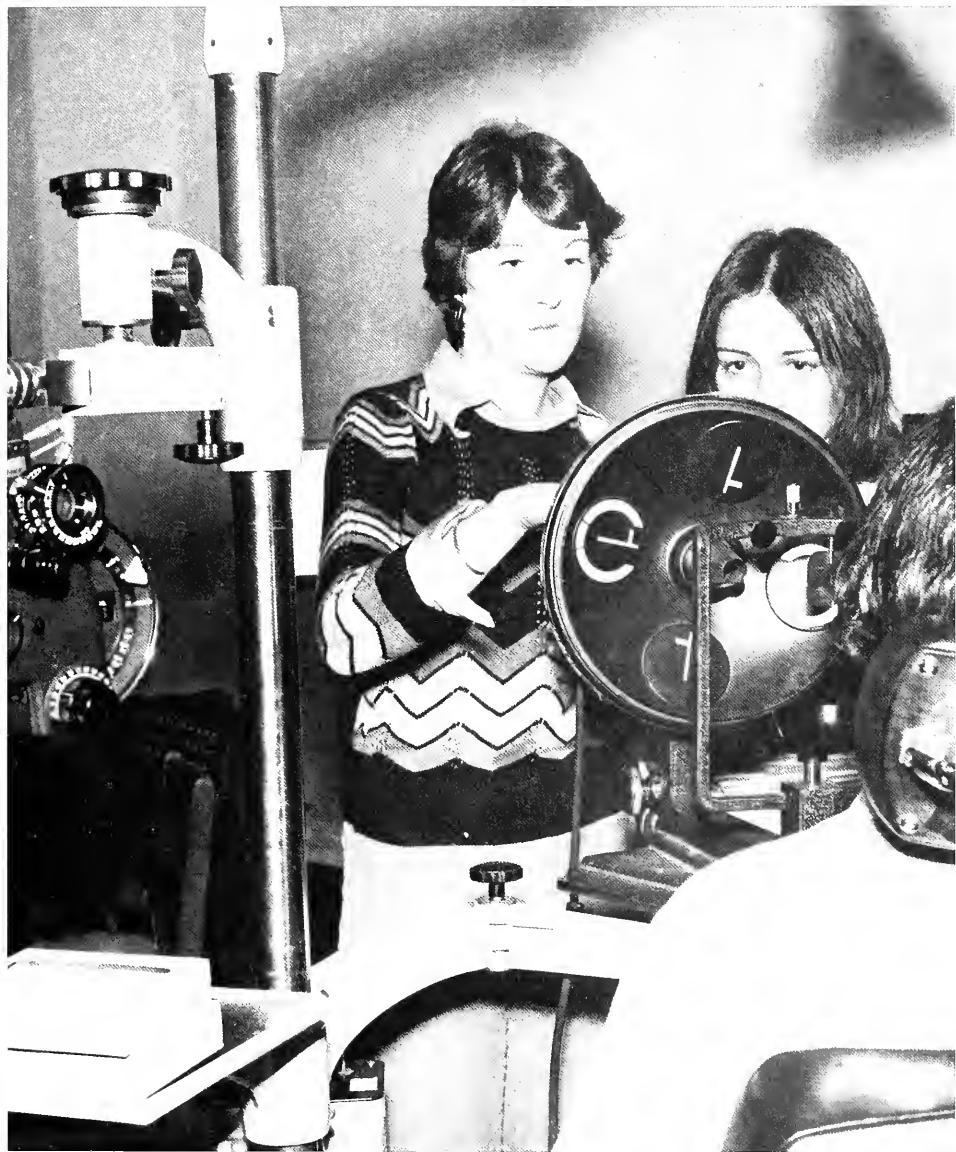
Health Insurance

While the College does not maintain a health insurance program, it does provide information concerning a group insurance plan which includes major medical, illness, and hospital benefits. Enrollment is optional. Forms are available during registration. Rates for this insurance are relatively low because it is a group program designed especially for students. Enrollment is open four times during the year.

Placement

A list of opportunities is maintained in the Office of Student Affairs. Students seeking employment may fill out a form that will be matched with available opportunities and forwarded to the positions available which the student has designated. It is up to the individual or agency seeking an employee to contact the student.







7 Student Activities

Student Council

The Student Council governs the internal affairs of the student body.

It is comprised of the class officers of each of the classes in the regular four-year program, two representatives each from the accelerated two-year O.D. degree program, and one representative from the College's American Optometric Student Association chapter.

The Student Council processes the student activity fees and is responsible for managing the budget of the student body.

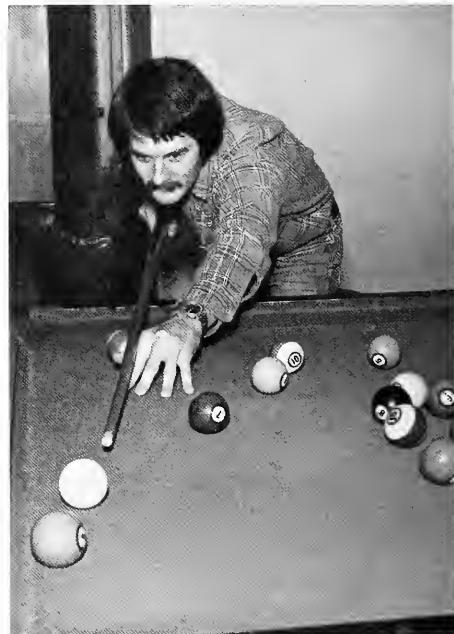
Other activities of the Student Council include:

- a Student Judiciary Committee, established to consider disciplinary and other problems
- promotion of good relations among students, faculty, and administration
- maintenance of the student recreation room and the photography darkroom
- sponsorship of various social activities.

The President of the Student Council is a voting member of the College's Board of Trustees.

Class Organization

Each class may arrange its internal structure as it chooses, provided that its arrangement does not violate the Student Council constitution. Each class is responsible to the Student Council on matters affecting the entire student body.



Participation in Institutional Governance

Representatives of the student body serve on the Board of Trustees, the Admissions Committee, the Student Affairs Committee, and the Curriculum Committee. The presidents of the third- and fourth-year classes and the president of the Student Council serve on the executive council of The New England College of Optometry Alumni Association.

The American Optometric Student Association

The American Optometric Student Association (AOSA) is a national organization of optometry students whose purposes are to enhance the visual welfare of the public, to contribute to the education and welfare of the optometry student bodies, and to improve the student societies in each optometry school.

The national structure of AOSA consists of an executive council made up of four elected national officers and a board of trustees composed of one student from each of the fourteen schools of optometry in the United States.

AOSA committees — functioning at national, regional, and local levels — provide opportunities for participation in such areas as education, intraprofessional liaisons, public health, minority recruitment, national affairs, and financial aid.

AOSA also publishes the *American Optometry Student Review*, a national student newspaper which reports on student activities at all schools.

Beta Sigma Kappa

The College's chapter of Beta Sigma Kappa, an international optometric honor society, was chartered in 1976.

The purposes of the honor society are to award recognition for high scholarship and to encourage scientific interest within optometry.

Invitation to membership is extended at the end of each academic year to students who have attained a grade point average (or equivalent) of 3.5 or better at the end of the first year, 3.4 for the first two years, 3.3 for the first three years, and 3.2 for the entire four years.

Camera Club

Because the technical content of optometric studies is so closely related to photography, the College's Camera Club is generally a very active one. Dark-room facilities are available to students interested in furthering their photographic interests and expertise.





8 College Facilities

Bookstore

The bookstore supplies students with texts, scientific instruments, equipment, and other necessary student supplies.

Most courses use at least one textbook, and, while it is not College policy to require the purchase of textbooks, their purchase is strongly recommended by the faculty. In general, copies of each recommended text will be available in the College library, but not in sufficient numbers to meet the full needs of a class. Copies of all recommended textbooks will be available through the bookstore. The cost of textbooks, during the first two professional years, should not exceed \$375. Cost during subsequent years will be substantially less.

New students are required to equip themselves with hand instruments and a trial case in the first quarter. The cost of these items is approximately \$1,000. Instruments are available at the bookstore.

The bookstore is operated for the convenience of students, and items are priced about 15 percent above cost.





Library

The library occupies three floors of an Italian Renaissance style townhouse built in 1894, the year the College was founded. In this Victorian setting, two professional librarians and their support staff provide the services of a modern instructional materials center.

There is an extensive collection of materials relating to vision care in both print and non-print formats. There are rooms for quiet reading, areas for small groups to study together, carrels equipped for playback of a variety of audio-visual materials, and a photocopying center. Reference services and bibliographic instruction are available during all open hours.

From September through May, the library is open daily, except legal holidays. During the summer months and vacation periods, it is open during business hours on weekdays and in the evening by appointment.

The library is a member of the Medical Library Association.





9 Directory

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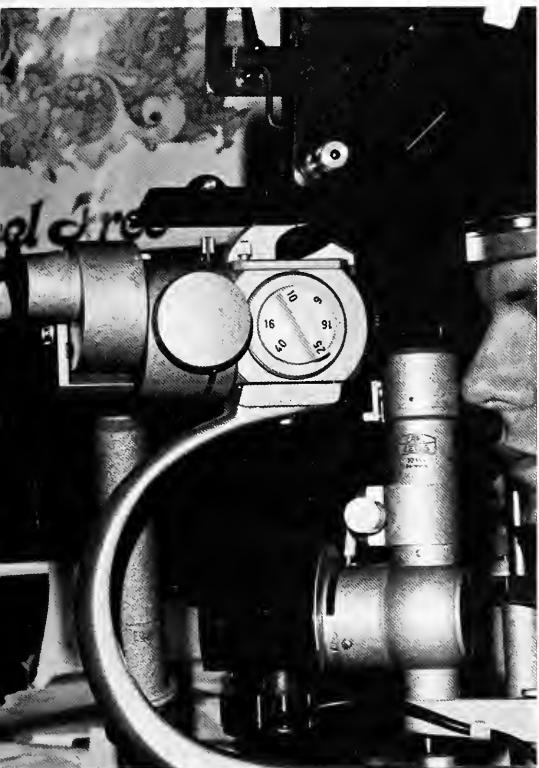
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Sarah McLellan, *Assistant to the President for Development*

Martha Marchessault, B.S., *Financial Aid Officer*

Barry Menkes, M.S., *Clinic Administrator*





Faculty

Full-Time

Nancy E. Carlson, *Instructor in Optometry*, O.D., NEWENCO

John H. Carter, *Professor of Optometry and Physiological Optics*, M.S., Ph.D., Indiana University; O.D., Pennsylvania College of Optometry

Elliot Cohen, *Instructor in Optometry*, O.D., NEWENCO

James P. Cormerford, *Assistant Professor of Physiological Optics*, M.A., Ph.D., University of California; O.D., NEWENCO

Margaret L. Costa, *Instructor in Optometry*, O.D., NEWENCO

William M. Dell, *Assistant Professor of Optometry*, O.D., MCO; M.P.H., Harvard University

Chanel Dufour, *Senior Instructor in Clinical Optics*

David Greenberg, *Assistant Professor of Optometry*, O.D., MCO

Celia Hinricks, *Instructor in Optometry*, O.D., NEWENCO

Hyman R. Kamens, *Professor of Optometry*, O.D., MCO

Stanley Klein, *Associate Professor of Psychology*, M.A., Ph.D., Clark University

Frank Kozol, *Professor of Optometry*, O.D., MCO

Paul Lappin, *Professor of Physiological Optics*, M.S., Ph.D., Indiana University; O.D., MCO

Richard Laudon, *Assistant Professor of Optometry*, O.D., MCO

Janet Lemoine, *Assistant Professor of Optometry*, O.D., MCO

Albert Mastracchio, *Instructor in Optometry*, M.S., Cornell University; O.D., NEWENCO

Debra McBride, *Instructor in Optometry*, O.D., University of California, Berkeley

Glen L. McCormack, *Assistant Professor of Physiological Optics and Optometry*, Ph.D., University of California, Berkeley; O.D., Indiana University

Eileen C. McGill, *Instructor in Anatomy*, O.D., NEWENCO

Gary L. Moss, *Assistant Professor of Optometry*, O.D.,
MCO

Srinivas, Natrajan, *Associate Professor of Physiology and Pharmacology*, Ph.D., Virginia Polytechnic Institute; M.S., Massachusetts College of Pharmacy; M.S., Auburn University; B.V.Sc. (D.V.M. equivalent), Osmania University, India

Noel A. Nugent, *Assistant Professor of Optometry*, Ph.D., University of New Hampshire, O.D., NEWENCO

Paul L. Pease, *Associate Professor of Physiological Optics*, Ph.D., University of California, Berkeley; O.D., Pennsylvania College of Optometry

Walter L. Potaznick, *Instructor in Optometry*, O.D., NEWENCO

Robert Rice, *Assistant Professor of Anatomy*, M.S., Ph.D., New York Medical College

William Seefeld, *Instructor in Optometry*, O.D., NEWENCO

F. Dow Smith, *Professor of Optics*, M.A., Queens University, Canada; Ph.D., University of Rochester

Joseph Svagdys, *Professor of Optometry*, O.D., MCO

Frank Thorn, *Assistant Professor of Physiological Optics*, Ph.D., University of Rochester; O.D., NEWENCO

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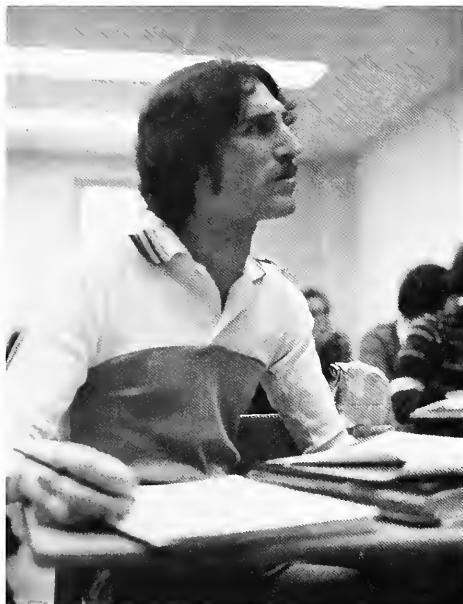
Mark B. Zorn, *Assistant Professor of Biochemistry*, Ph.D., Columbia University





Part-Time

Robert Allard, *Assistant Professor of Optometry, O.D., Illinois College of Optometry*
George Annas, *Visiting Lecturer, J.D., Harvard Law School, M.P.H., Harvard School of Public Health*
John Asarkof, *Associate Professor of Optometry, O.D., MCO*
J. Andrew Billings, *Visiting Lecturer, M.D., Harvard Medical School*
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David Eisenberg, *Clinical Consultant in Ophthalmology, M.D., Albert Einstein*
Barry Fisch, *Instructor in Optometry, O.D., MCO*
Thomas Freddo, *Instructor in Optometry, O.D., NEWENCO*
Matthew Garston, *Associate Professor of Optometry, O.D., MCO*



Ellen Gilman, *Instructor in Optometry*, Ed.M., Boston State College; O.D., NEWENCO
William Gleason, *Assistant Professor of Optometry*, O.D., MCO
Rodney Gutner, *Instructor in Optometry*, O.D., MCO
David Higgins, *Assistant Professor of Optometry*, M.S., Ph.D., Pennsylvania State University; O.D., MCO
Donald Hill, *Instructor in Optometry*, O.D., MCO
Richard Houghton, *Instructor in Optometry*, O.D., MCO
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Laurence Lieberman, *Clinical Consultant in Pediatrics*, Ph.D., Columbia University
William Mack, *Instructor in Optometry*, O.D., Pennsylvania College of Optometry
Frederick Mandel, *Clinical Instructor in Pediatrics*, M.D., University of Vermont College of Medicine
Carroll Martus, *Associate Professor of Social Optometry*, M.A., Boston State College; O.D., MCO
Indra Mohindra, *Associate Professor of Optometry*, Dipl. Ophth. Opt., Northampton; M.S., Indiana University
Jeffrey Morrill, *Instructor in Optometry*, O.D., MCO
Albert Mulley, *Assistant Professor of Public Health*, M.D., Harvard Medical School
Foster Namias, *Professor Emeritus of Optometry*, O.D., D.O.S., MCO
Irwin Nathanson, *Assistant Professor of Optometry*, O.D., MCO
Donald Pasakarnis, *Instructor in Optometry*, O.D., MCO

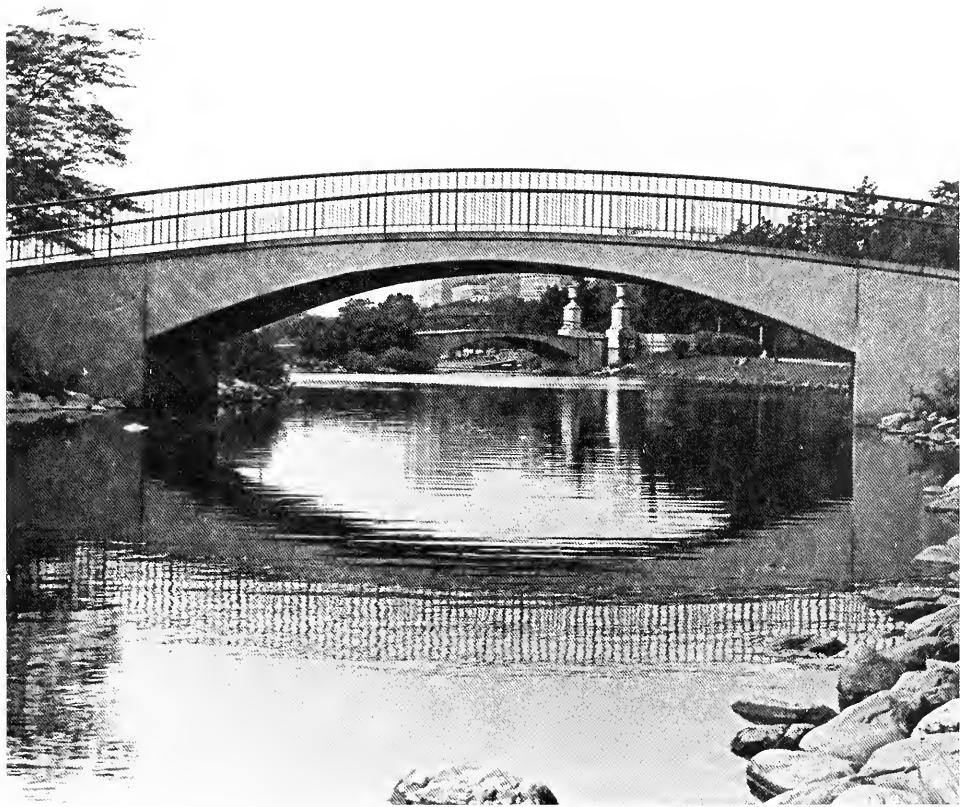
Abe Pogoda, *Assistant Professor of Optometry, M.S., M.S.E.E., Columbia University; O.D., MCO*
Harvey Rapoport, *Assistant Professor of Optometry, O.D., MCO*
Stanley Reiser, *Visiting Lecturer, M.D., Downstate College of Medicine of the State University of New York*
Marc Richman, *Associate Professor of Clinical Pathology, M.D., Boston University*
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John Stoeckle, *Visiting Lecturer, M.D., Harvard Medical School*
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William Watts, Jr., *Instructor in Optometry, O.D., MCO*
Paul White, *Associate Professor of Optometry, O.D., MCO*
Henry Woodcome, *Instructor in Optometry, O.D., Pennsylvania College of Optometry*



Clinical Fellows

John Lynch, O.D., Pennsylvania College of
Optometry
Rita Morrison, O.D., NEWENCO





The provisions of this bulletin are not an irrevocable contract between the student and The New England College of Optometry. The College reserves the right to change any provision or requirement at any time within the student's term of residence. The College further reserves the right to ask the student to withdraw for cause at any time.

Please address all correspondence to:
Office of the Dean of Student Affairs
The New England College of Optometry
424 Beacon Street
Boston, MA 02115

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424 Beacon Street
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